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Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for June and July—Summary Report

August 19, 2005

The **primary metals leading index** increased for the second month in a row in July, rising 1.8% to 140.4 from a revised 137.9 in June, and its 6-month smoothed growth rate moved up to -2.3% from -5.9% in June. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. While the leading index growth rate is still negative, the hefty increase in July suggests that the steep decline in primary metal activity could begin to slow in the months ahead.

Three of the four indicators that were available for the July index calculation increased. However, the indicator that decreased did not outweigh the increases in the other indicators, as was the case in the preliminary June calculation. A longer average workweek in primary metals establishments contributed 0.9 percentage points to the net increase in the leading index. The PMI, a measure of U.S. manufacturing activity, increased for the second consecutive month in July. It contributed 0.7 percentage points to the leading index. The PMI moved higher in the range that indicates further manufacturing activity growth. A rise in the stock price index for construction and farm machinery companies and for industrial machinery companies contributed 0.5 percentage points. However, the contribution from the falling JOC-ECRI metals price index growth rate offset gains from other indicators slightly, 0.3 percentage points. The July leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

The primary aluminum and the aluminum mill products indexes are suspended because of discontinued availability of industry-specific historical data. The USGS will continue to calculate the steel and copper composite indexes. These indexes are available through June. The copper leading index increased 1.2% in June, with most of its six indicators posting gains. But it is the copper price that is the major contributor to the leading index's net increase. Strong demand for copper and tight supplies will likely keep the copper industry growing

at a slow-to-modest pace in the near future. The steel leading index edged up 0.2% in June, despite large decreases in two of its nine indicators, the average workweek in steel mills and the growth rate of steel prices. The S&P stock price index also decreased, but its negative impact in the leading index was less than the previous two. The steel leading index growth rate moved up in July but remains relatively deep in negative territory. This suggests that it may further in the future before steel industry activity growth picks up.

The **metals price leading index** declined 1.0% in June, the latest month for which it is available, falling to 105.8 from a revised 106.9 in May, and its 6-month smoothed growth rate lowered to -6.5% from a revised -5.3% in May. Two of its three available indicators decreased in June. The decrease in the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar made the largest negative contribution to net decline in the leading index, -1.1 percentage point. The tightening yield spread between the U.S. 10-year Treasury Note and the federal funds rate contributed -0.2 percentage points. However, the growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products increased and made the only positive contribution, 0.2 percentage points, to the index. The fourth component, the growth rate of the Economic Cycle Research Institute (ECRI) 18-Country Long Leading Index, was only available though May. It has been indicating flat-to-slow growth for most global economies since March. The ECRI 18-Country Long Leading Index gauges future economic activity for major industrialized countries and signals changes in the growth of economic activity about 5 months in advance. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the inflation-adjusted value of U.S. nonferrous metal products inventories, which is an indicator of supply, decreased in June. This indicator usually moves inversely with the price of metals. However, indicators of domestic and global economic growth continue to suggest weaker demand for metals, with the exception of copper. Furthermore, the metal price leading index growth rate consistently indicates a decline in metals price growth.

The percent changes from May to June for the **metal industry coincident indexes**, which measure current economic activity, are shown below. June is the latest month for which these indexes are available.

Primary Metals	0.0%
Steel	-0.6%
Copper	0.6%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

The *Metal Industry Indicators* report is produced at the U.S. Geological Survey by the Minerals Information Team. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, gjames@usgs.gov) at the U.S. Geological Survey.

The *Metal Industry Indicators* summary report with indexes for July and August is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, September 16.

Table 1.
Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index, Inventories of Nonferrous Metal Products, and Selected Metal Prices

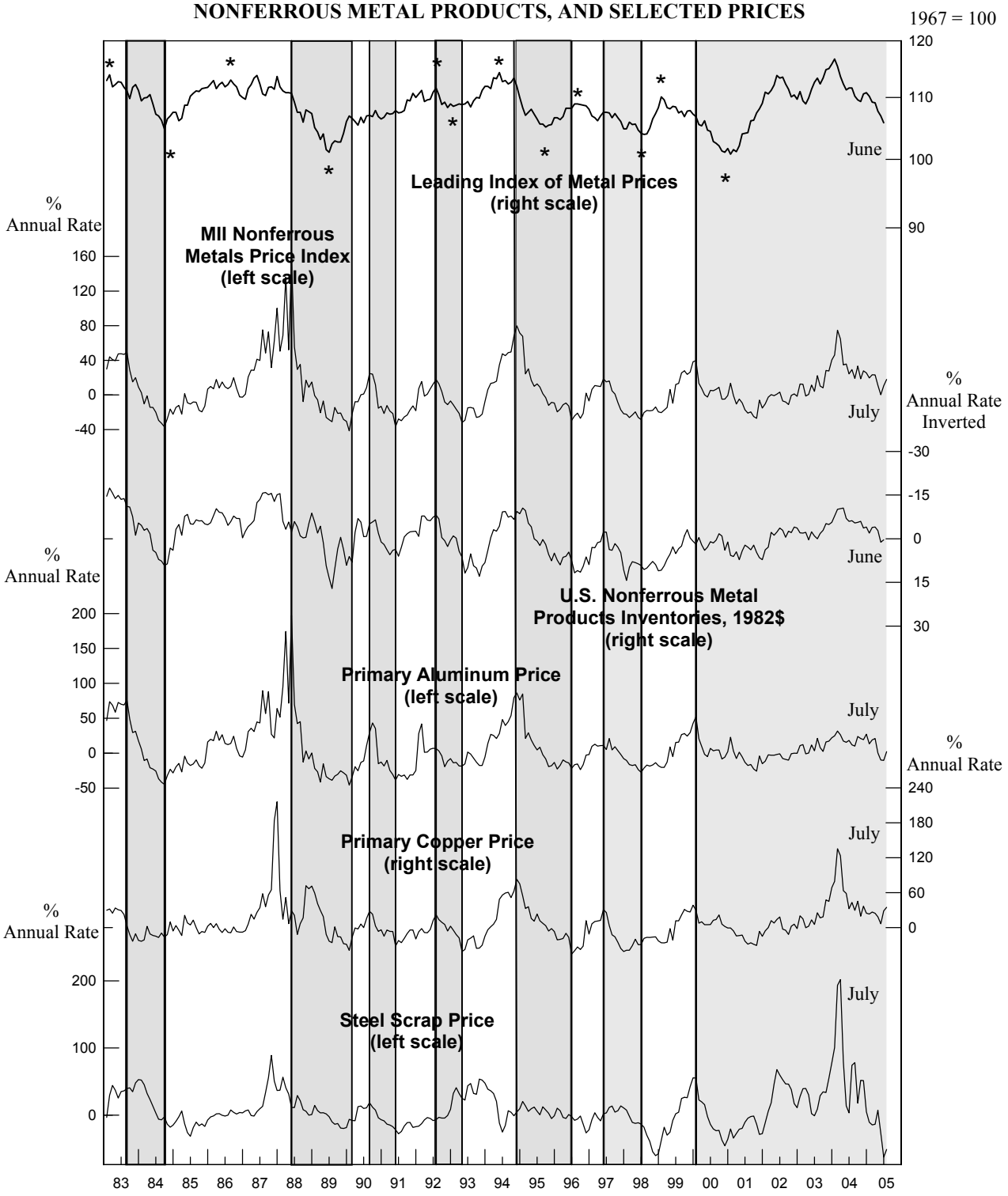
		Six-Month Smoothed Growth Rates				
	Leading Index of Metal Prices (1967=100)	MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982$)	Primary Aluminum	Primary Copper	Steel Scrap
2004						
June	111.6r	24.5	-6.0	18.2	32.4	3.4
July	111.6	29.4	-6.2	11.8	43.2	74.4
August	110.2r	19.2	-5.4	10.2	29.4	78.3
September	109.6r	33.4	-5.6	23.8	45.1	18.0
October	109.3r	18.6	-6.0	21.0	19.5	51.8
November	110.6r	28.0	-3.7	19.2	36.7	51.4
December	110.8	25.5	-4.0	27.0	24.7	5.0
2005						
January	110.2r	19.6	-1.9	13.5	23.2	-10.6
February	109.2r	23.4	-3.9r	19.1	26.7	-14.4
March	109.1	23.2	-4.0r	21.0	24.5	-13.4
April	107.7	11.2	-2.8r	0.4	18.5	7.4
May	106.9r	0.3	1.2r	-9.9	6.6	-26.8
June	105.8	10.5	0.4	-10.3	28.8	-62.3
July	NA	17.9	NA	2.1	34.7	-51.1

NA: Not available **r:** Revised

Note: The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Economic Cycle Research Institute's 18-Country Long Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.

Sources: U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Economic Cycle Research Institute, Inc. (ECRI); and Federal Reserve Board.

CHART 1.
LEADING INDEX OF METAL PRICES AND GROWTH RATES OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF NONFERROUS METAL PRODUCTS, AND SELECTED PRICES



Shaded areas are downturns in the nonferrous metals price index growth rate. Asterisks (*) are peaks and troughs in the economic activity reflected by the leading index of metal prices. Scale for nonferrous metal products inventories is inverted.

U.S. Geological Survey, August 2005

Table 2.
The Primary Metals Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2004				
August	143.2r	4.8r	100.6	4.5
September	142.9r	3.3r	100.5	3.4
October	143.2r	2.8	100.2	2.1
November	144.9r	4.2r	100.7	2.4
December	144.6r	2.9r	100.6	1.8
2005				
January	143.7r	1.1	100.7	1.7
February	142.7r	-0.6	100.0	0.0
March	142.6r	-0.9	100.2r	0.0r
April	139.4r	-4.9r	98.8r	-2.5r
May	137.5r	-7.0r	98.5r	-3.1r
June	137.9r	-5.9	98.5	-3.0
July	140.4	-2.3	NA	NA

NA: Not available **r:** Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 3.
The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month

Leading Index	**June**	**July**
1. Average weekly hours, primary metals (NAICS 331)	0.2	0.9
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	0.2r	0.5
3. Ratio of price to unit labor cost (NAICS 331)	-0.5	NA
4. JOC-ECRI metals price index growth rate	-0.6r	-0.3
5. New orders, primary metal products, (NAICS 331 & 335929) 1982$	0.1	NA
6. Index of new private housing units authorized by permit	0.2	NA
7. Growth rate of U.S. M2 money supply, 2000$	0.4	NA
8. PMI	0.3r	0.7
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.3r	1.8

Coincident Index	**May**	**June**
1. Industrial production index, primary metals (NAICS 331)	-0.3r	-0.4
2. Total employee hours, primary metals (NAICS 331)	-0.1r	0.1
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982$	0.0	0.2
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-0.3r	0.0

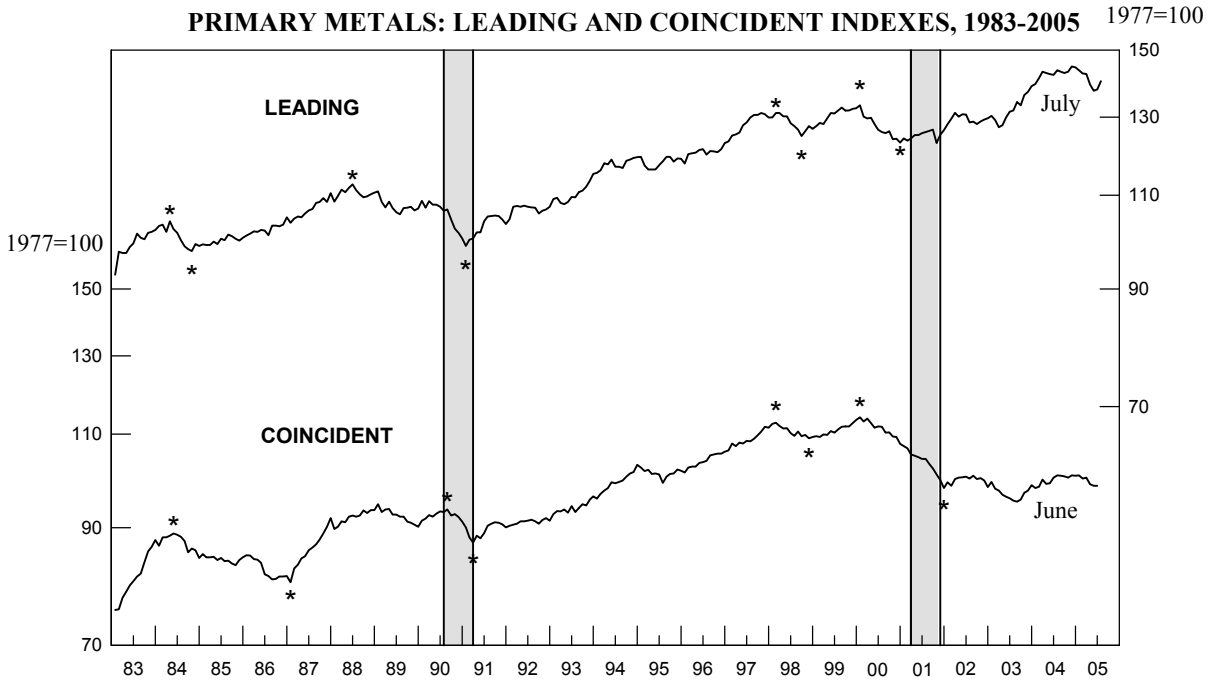
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 2, 3, and 4 of the leading index.

NA: Not available **r:** Revised

Note: A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

CHART 2.

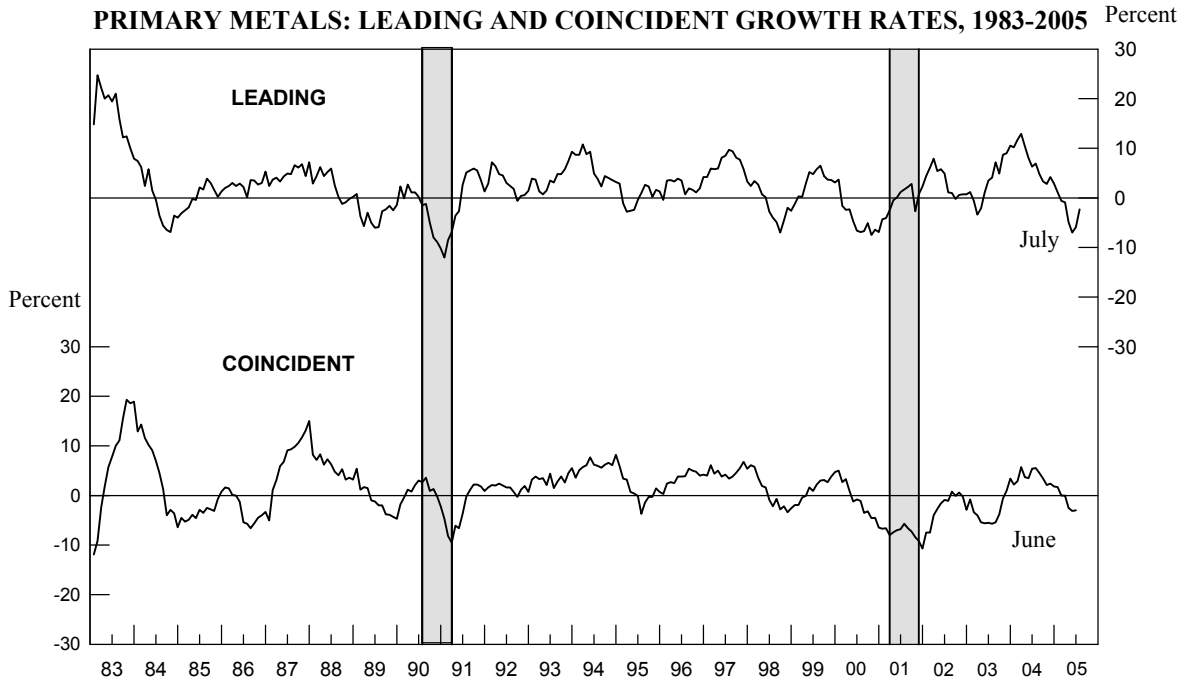
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1983-2005



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 3.

PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1983-2005



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Table 4.
The Steel Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2004				
July	115.5r	5.1r	94.5	3.7
August	117.8r	8.0r	94.4	3.1
September	117.1r	5.8r	95.2	3.9
October	115.4r	2.0r	95.0	3.0
November	118.3r	6.1r	95.5	3.2
December	118.6r	5.7r	95.7	3.3
2005				
January	117.1r	2.5r	96.0	3.6
February	116.4r	0.9r	95.2	1.5r
March	115.5r	-0.8r	94.7	0.1
April	114.0r	-3.4	93.5r	-2.6r
May	112.3r	-6.1r	92.9r	-3.7r
June	112.5	-5.5	92.3	-4.9

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

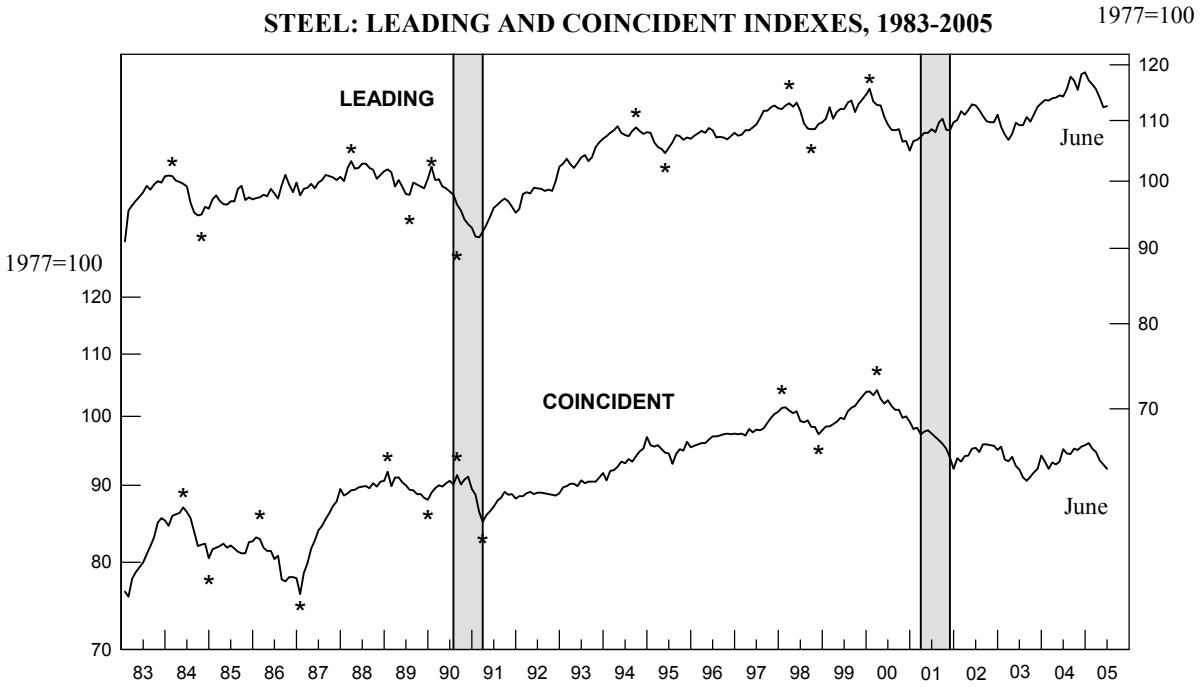
Leading Index	**May**	**June**
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	-0.4	-0.6
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982$	0.1r	0.1
3. Shipments of household appliances, 1982$	0.1	0.2
4. S&P stock price index, steel companies	-0.4	-0.2
5. Retail sales of U.S. passenger cars and light trucks (units)	-0.1r	0.4
6. Growth rate of the price of steel scrap (#1 heavy melting, $/ton)	-0.3	-0.6
7. Index of new private housing units authorized by permit	-0.2	0.2
8. Growth rate of U.S. M2 money supply, 2000$	-0.1	0.4
9. PMI	-0.2	0.3
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-1.5	0.2
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	-0.4r	-0.5
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982$	-0.4r	0.1
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	-0.1r	-0.2
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-0.8r	-0.5

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

r: Revised

CHART 4.

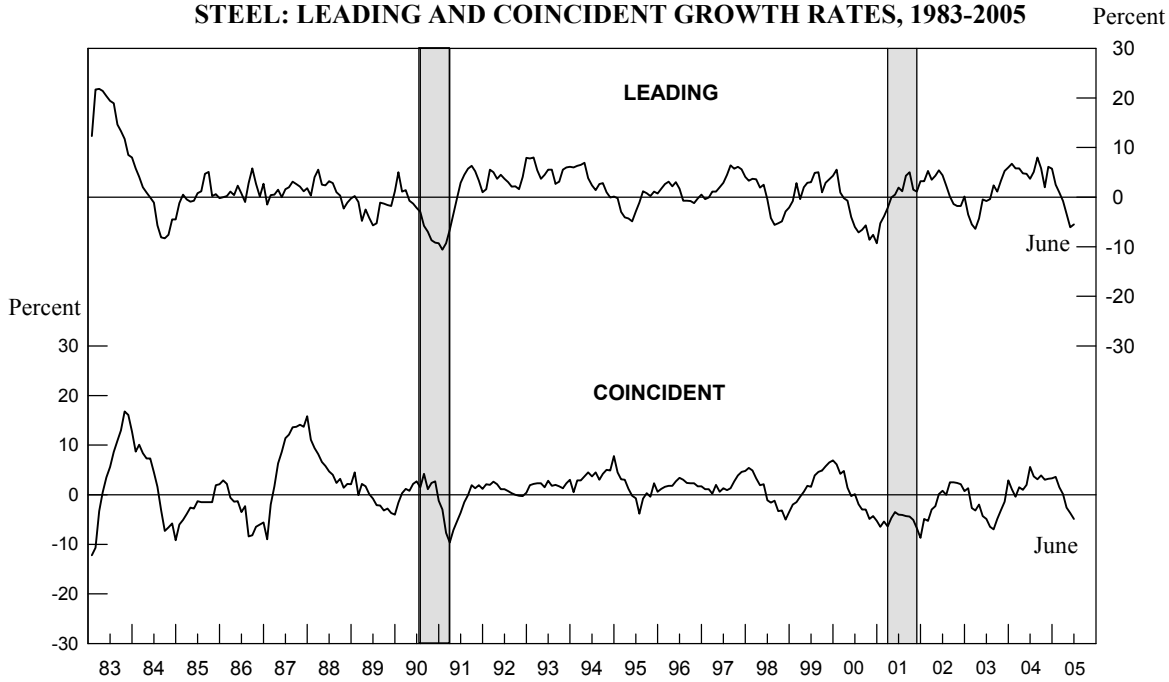
STEEL: LEADING AND COINCIDENT INDEXES, 1983-2005



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 5.

STEEL: LEADING AND COINCIDENT GROWTH RATES, 1983-2005



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Table 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2004				
July	128.8	6.2	110.0	4.3
August	127.8	3.6	108.8	1.8
September	127.9	2.7	107.8	-0.2
October	127.4	1.1	107.1	-1.5
November	128.1	1.5	106.7	-2.4
December	127.9	0.6	109.5	2.2
2005				
January	127.9	0.2	107.8	-1.0
February	128.9r	1.2r	109.3	1.3
March	129.1	1.3	110.4r	2.9r
April	128.1	-0.3	107.9r	-1.8r
May	126.7r	-2.3r	109.4r	1.0r
June	128.2	0.2	110.1	2.2

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

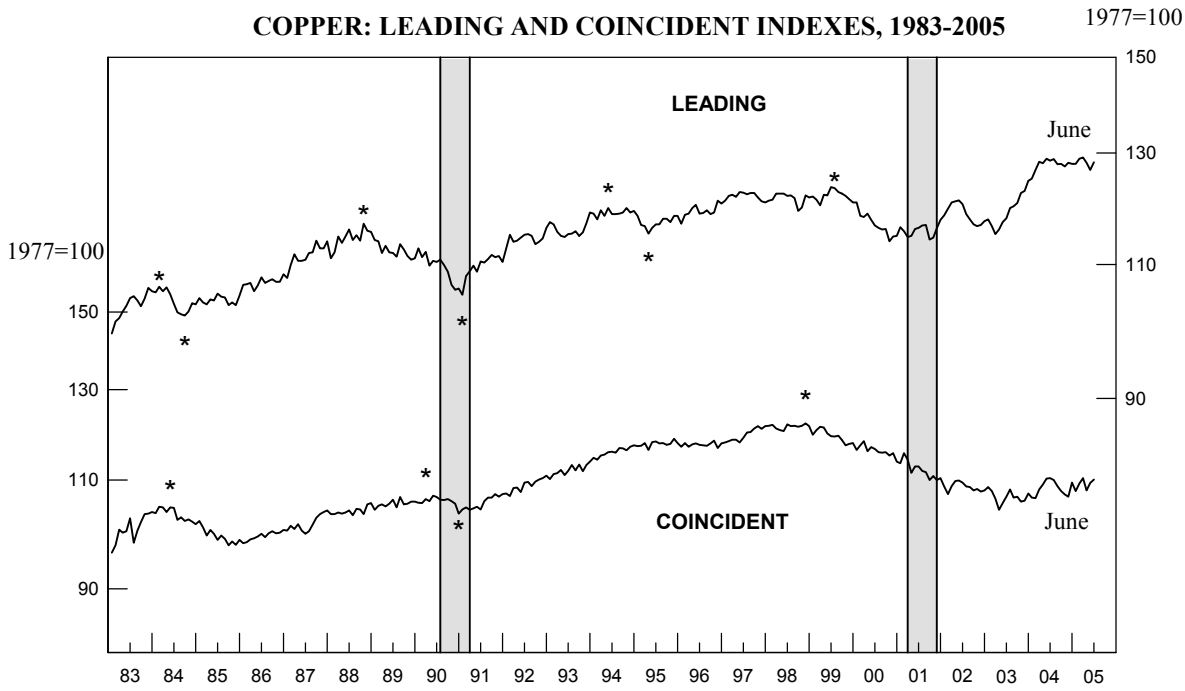
Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

Leading Index	**May**	**June**
1. Average weekly overtime hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.0	0.1
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982$	0.2r	0.1
3. S&P stock price index, building products companies	-0.4	0.2
4. LME spot price of primary copper	-0.2	0.6
5. Index of new private housing units authorized by permit	-0.3	0.2
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.3	-0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-1.0r	1.0
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	0.0r	0.2
2. Total employee hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	-1.3r	0.3
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-1.2r	0.6

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

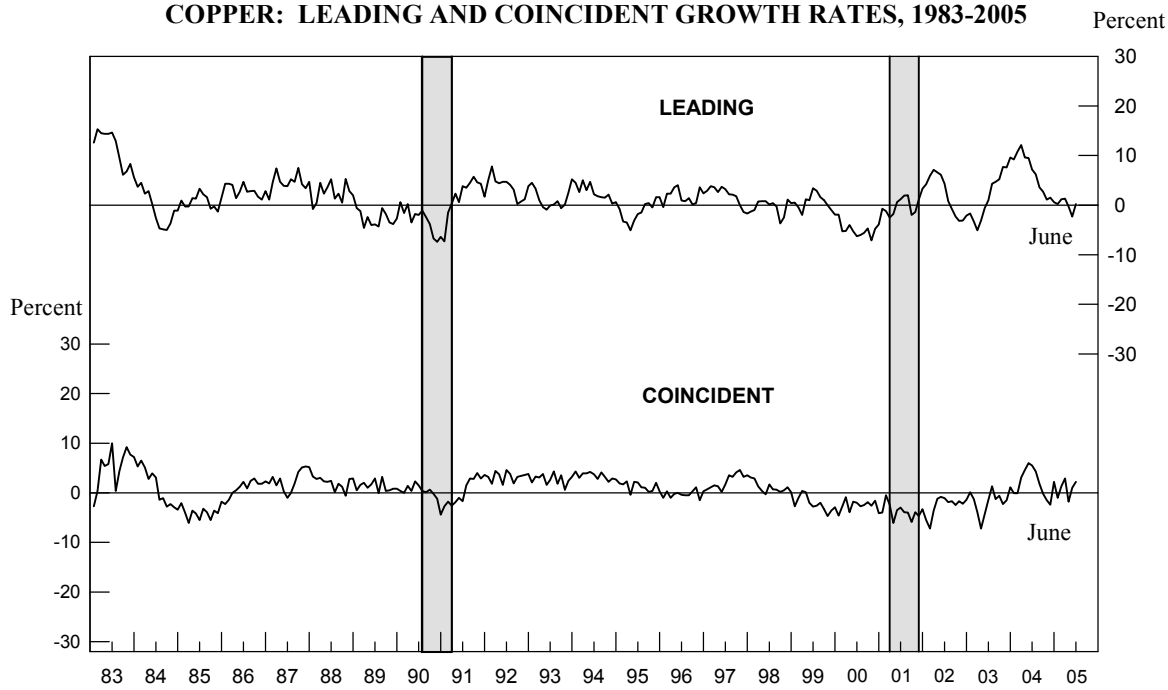
r: Revised NA: Not available

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1983-2005



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1983-2005

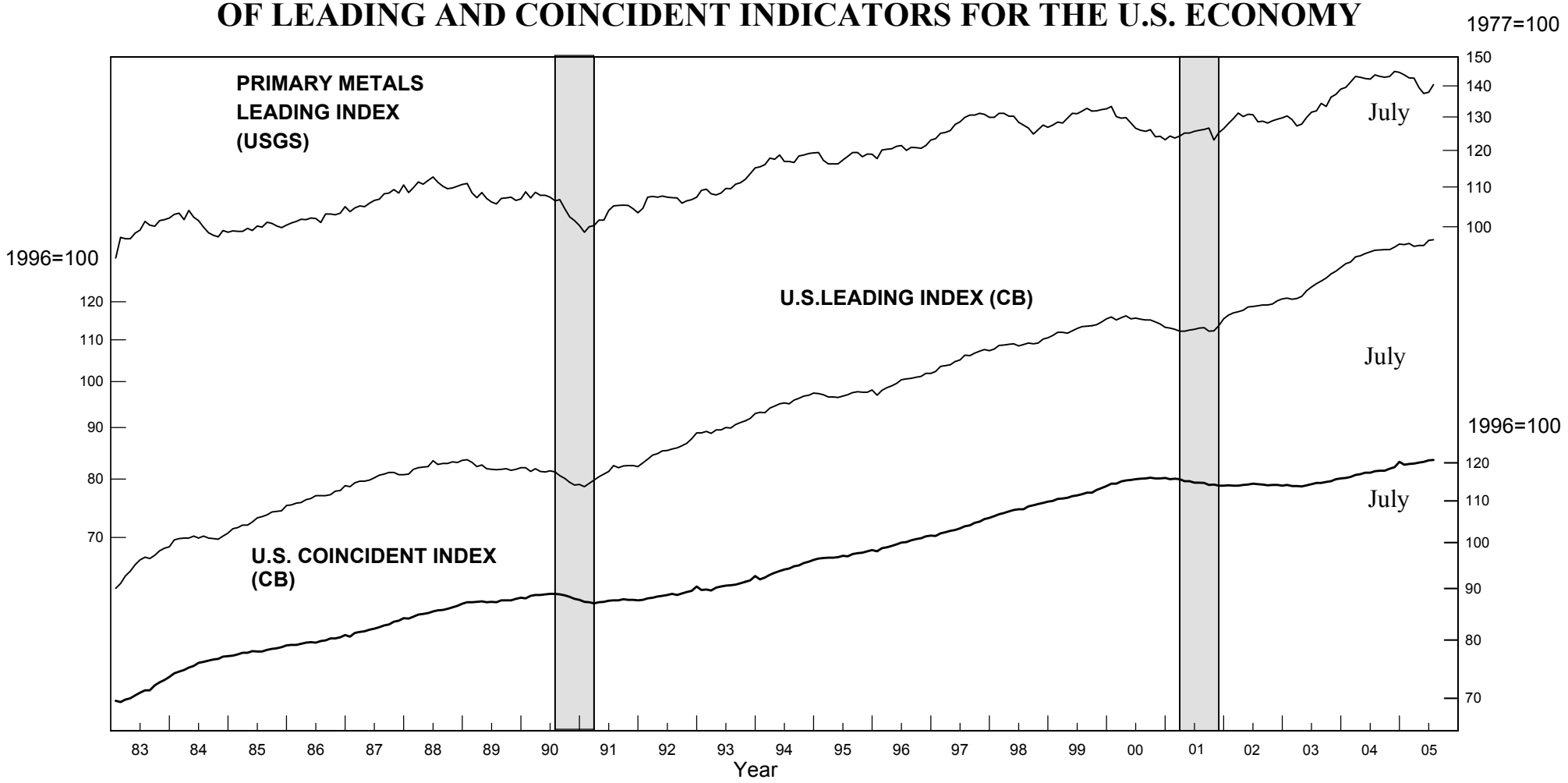


Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Chart 8.

PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

August 2005